SEMESTER END EXAMINATION, APRIL-MAY, 2026

Course Name: -B TECH (CSE) **Semester:- IVth**

Paper Name: - DBMS **Paper Code:- NCS-403**

Time - 3 Hrs + 20 minutes per hour extra time for V.I. & examinees with writer. Max Marks-70

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries **3 mark. All questions are compulsory**.
- Section B- Answer any **5 out of 7** given questions. Each question carries **7 marks**.
- Section C- Answer any **2 out of 3** given questions. Each question carries **10 marks**.

Section – A
Objective Questions

1. Answer all the following questions. **5x3 =15**

i) Database always stored in _____

a) Main memory b) Main memory & secondary

c) Secondary Memory d) Cache & Secondary Memory

ii) Degree of relation other name ___

a) No of column in relation b) Arity of relations

c) a & b both d) NDT

iii) Relation R (a_1, a_2, a_3, a_4, a_5) find total no of possible supper key?

a) 32 b)31 c)30 d)33

iv) Relation or table order is ___

a) Cardinality * Degree b) Cardinality * Arity

c) a & b d) cardinality * order

v) What is MySQL primarily used for in software applications?

a) Managing operating system processes and memory b) compiling programming languages into machine code

b) Managing relational database using SQL queries d) Creating graphical user interfaces for application

Section – B
Short Answer Questions

2. Answer any five of the following questions. **5x7=35**

i. A) Difine batabase management system with Example ? What is dataBase?
B) Describe DDL and DML In detail with suitable Example?

ii. A) Explain relational algebra operations with examples?
B) What normal forms? Explain 1NF,2NF,3NF,and BCNFwith examples?

iii. A) Explain Key concept? Explain Super Key with exaples?
B) Define & explain Candidate key Alternate key with suitable examples?

iv. A) Differentiate between logical and physical data independence.Why are they important?
B) Explain different data model (ER ,Relational,Network) and compare them

v. A) Compare DAC ,MAC , and RBAC security models?
B) What is sql injection? Explain its types and prevention techniques?

vi. A) Explain data models Network data model,relational data model with suitable diagram?
B) What are integrity constraints? Explain different types with examples?

vii. A) Decribe tuple Relational calculus and domain Relational calculus?
B) Explain relational algebra operations with example.

Section - C
Descriptive Questions

3. Answer any two of the following question. 2x10=20

i) A) Describe and explain data mining techniques and their application? Define data mining ?
B) Explain data warehousing? Write components and their architecure?

ii) A) Describe data models , Network data model , Object oriented data model with examples?
B) Explain functional dependencies and their types with examples?

iii) A) Discuss entity relationship model (ER) model and its components with a diagram?
B) What are weak entity and strong entity explain with suitable examples?

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